CLAIMS

1. A video interfacing apparatus for connecting at least one display device to at least one video source comprising:

a module including

a dedicated and programmed digital processor adapted to decode and descramble a video flow according to a preloaded decoding or descrambling program, in order to 1) display, in real time or delayed in time, 2) store, 3) record and/or 4) send the video flow over a telecommunication network, and

at least one screen interface, at least one storage or recording interface, a local or wide area network connecting interface and a user communication and controlling interface, said interfaces being linked to and driven by said processor.

2. The apparatus according to Claim 1, wherein the storage or recording interface(s) comprise(s) a hard disk interface and/or an analog or digital video recorder interface, selected from the group consisting of a video cassette recorder interface, a CD recorder and a DVD recorder.

3. The apparatus according to Claims 1 or 2, wherein the screen interface(s) comprise(s) a standard wire connection screen interface and/or a wireless screen interface and wherein the user communication and controlling interface consists of a remote control interface selected from the group consisting of a wire and/or wireless joystick, a wire and/or wireless keyboard and any device using wire or wireless technology.

4. The apparatus according to Claim 1, wherein the module also includes at least one smart card or credit card style memory card reader interface.

5. The apparatus according to Claim 1, wherein the network connecting interface is linked to a wide area network, directly or through a local area network forming an access network, and consists of a digital subscriber line interface, or a cable interface, of an optical fiber line interface or of an air interface for radio communication.

6. The apparatus according to Claim 1, wherein the module also includes a video camera interface for connecting at least one local camera, to facilitate transmission links with distant webcams through the network connecting interface.

7. The apparatus according to Claim 1, wherein the module includes all the interfaces and is an independent device mounted in a corresponding protective box.

8. The apparatus according to Claim 1, wherein the module, and the interfaces, are mounted inside a television, on an electronic control card of said television or at least partially on a separate card, the dedicated digital processor comprising a monoprocessor or media processor and/or being identical with a processor of the television.

9. A distribution system for transferring encoded video programs and sequences over a wide area network towards authorized users or system subscribers for display under selected conditions on adapted screens comprising:

one or more multimedia servers for collecting and storing at least video programs and sequences;

each of said multimedia servers being connected, directly or via a portal or gate server and/or an access network, to the wide area network, and

a plurality of video interfacing arrangements according to Claim 1, also linked to the wide area network, and installed at a users' home(s) or at predetermined locations, each video interfacing arrangement being associated with at least one television screen type display device.

10. The distribution system according to Claim 9, wherein at least one of the multimedia servers is associated with telecommunication or broadcast reception means and that at least one multimedia server is connected to directly access the wide area network.

11. The distribution system according to Claim 9, wherein the multimedia servers and/or the portal server(s) comprise means to encode and scramble video data, including means to add and entangle cryptographic and security information at the beginning and along sequences thereof upon unauthorized viewing, copying or reviewing of a sequence.

12. The distribution system according to Claim 11, wherein the multimedia server and/or the portal server comprises preloaded decoding or descrambling software stored in its memory.

13. A method for delivering video programs and/or sequences collected by and/or stored in adapted multimedia servers through a wide area network to authorized users provided with apparatus according to Claim 9, comprising:

addressing a concerned multimedia server or an associated portal server through the wide area network and ordering transfer of one or several given video program(s) or sequence(s) to an identified video interfacing arrangement also connected to said wide area network for immediate display or for at least partial storage and delayed display;

checking the user's authorization at the concerned portal server and, if the case occurs, preloading an adapted transfer protocol and/or decode or descramble software from said portal server towards said video interfacing arrangement;

transferring the ordered program(s) and/or sequence(s) associated with identity, security, cryptographic and/or handling restriction information, preceding or entangled with the video data flow; and

displaying, transferring, recording or handling in another way the transferred video program(s) and/or sequence(s) upon user's instructions, after checking identity of the user and rights, in accordance with possible handling restrictions.

14. The method according to Claim 13, wherein the handling restrictions comprise limitations selected from the group consisting of maximum number of viewing, maximum local storage time, fixed display time, uninterrupted display, absence of rewind and/or forward features and no copying possibility.

15. The method according to Claim 13, wherein the preloaded decode or descramble software is integrated within the video content.

16. The method according to Claim 13, wherein the preloaded decode or descramble software is automatically sent to the video interfacing arrangement.

17. The method according to Claim 13, wherein the preloaded decode or descramble software is sent to the video interfacing arrangement only on request.

18. The method according to Claim 9, further comprising a portal server which keeps a small part of multimedia content, so that not all information needed to monitor the content is stored on a hard disk to prevent illegal copying of the content, and in that the video interfacing arrangement connects to the portal server to get the remaining information to be able to display the multimedia content.

19. The method according to Claim 18, wherein, for a MPEG or MPEG like stream, a small part of information in said stream consists of some or all of I pictures.

20. The method according to Claim 18, wherein, for a MPEG or MPEG like stream, the portal exchanges some or all of the I pictures in the stream sent to the video interfacing arrangement, and small information kept on the portal server consists of information needed to restore the real order of the I pictures.

21. The method according to Claim 18, wherein, for a MPEG or MPEG like stream, the portal server may use a) a small part of information in said stream consisting of some or all of I pictures and b) some or all of the I pictures in the stream sent to the video interfacing arrangement, and small information kept on the portal server that consists of information needed to restore the real order of the I pictures.

22. The method according to Claim 20, wherein the program restoring the real order of the I pictures is partially stored in the portal server.

23. The method according to Claim 20, wherein the program restoring the real order of the I pictures is totally stored in the portal server.

24. The method according to Claim 20, wherein the program restoring the real order of the I pictures is executed in the module.

25. The method according to Claim 20, characterized in that the program restoring the real order of the I pictures is executed in the portal server.

26. The method according to Claim 20, wherein the program restoring the real order of the I pictures is executed partially in the module, and partially in the portal server.

27. The method according to Claim 18, wherein missing I images are sent with a high level of security, being scrambled by a dedicated algorithm in the portal server to prevent copying of the I images.

28. The method according to Claim 9, wherein, for a given multimedia content, the content is sent only once to the portal server, which then sends it to all interested modules.

29. The method according to Claim 9, wherein the portal server may store part or whole of the multimedia content, to be able to send it to any module without having to query the multimedia server.

30. The method according to Claim 9,wherein the module may store part or all of the multimedia content on a hard disk, so that need not stop the incoming stream whenever a user wants to pause, or to ask again for a previous content.

31. The method according to Claim 30, wherein the portal server may decide that the module stores the multimedia content on the hard disk.

32. The method according to Claim 30, wherein the multimedia server may decide that the module stores the multimedia content on the hard disk.

33. The method according to Claim 30, wherein the module may decide to store the multimedia content on the hard disk.

34. The method according to Claim 9, wherein, when establishing a certified connection between a receiving device and a multimedia server, the receiving device transmits an identifier specific to it to the portal server, the portal server then determines the address corresponding to the identifier received, the portal server having stored in its memory every identifier of authorized receiving devices with their corresponding physical address, the portal server then calling the device located at the address corresponding to the identifier received.

35. The method according to Claim 34, wherein completion of an additional step where the portal server asks its identifier to the called back receiving device and the confirmation that this receiving device is trying to establish a connection with this calling portal server.

36. The method according to Claim 9, wherein the module can also be used as a server for delivering interactive video programs and/or sequences collected by and/or stored in its memory or hard disk.

37. The method according to Claim 36, wherein the module can deliver its contents directly or via a portal or gate server and/or an access network, through a wide area network to authorized users equipped with another module.

38. The method according to Claim 36, wherein the portal or gate server is a controller for contents which are to be delivered by the module.